

America must invest in R and D, personnel for arms control verification

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by Nancy Jo Nicholas

Even a century ago, when a nation's military might could be measured by conspicuous assets such as tanks and battleships, confirming their numbers was difficult. Today, when possession of even a small amount of nuclear material can make a nation a formidable adversary, verification is even harder.

Given this, we need to actively pursue state-of-the-art physics to provide tools to ensure nations are complying with international treaties. Without those tools, we stand exposed to new threats that could slip under the shield of an unverifiable treaty.

We learned this lesson in the Cold War with the Limited Test Ban Treaty of 1963.

Signed by the United States, the Soviet Union and the United Kingdom in August 1963, it prohibited nuclear weapons tests "or any other nuclear explosion" in the atmosphere, outer space and underwater. The only problem: We couldn't verify it — not yet anyway; the technology didn't exist.

Scientists and engineers at Los Alamos National Laboratory had been working to develop nuclear detonation-detection satellites for four years, but they weren't ready. So they did what they had to do: They moved quickly.

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